

## Installation, Operation and RENEWAL PARTS IDENTIFICATION

SERVICE REFERENCE	
DIVISION 4	SECTION HCH
SALES REFERENCE (Supersedes PF422-4)	PF422-5
	161-027008-001
DATE	JANUARY, 2010

## HCH Convection Heater

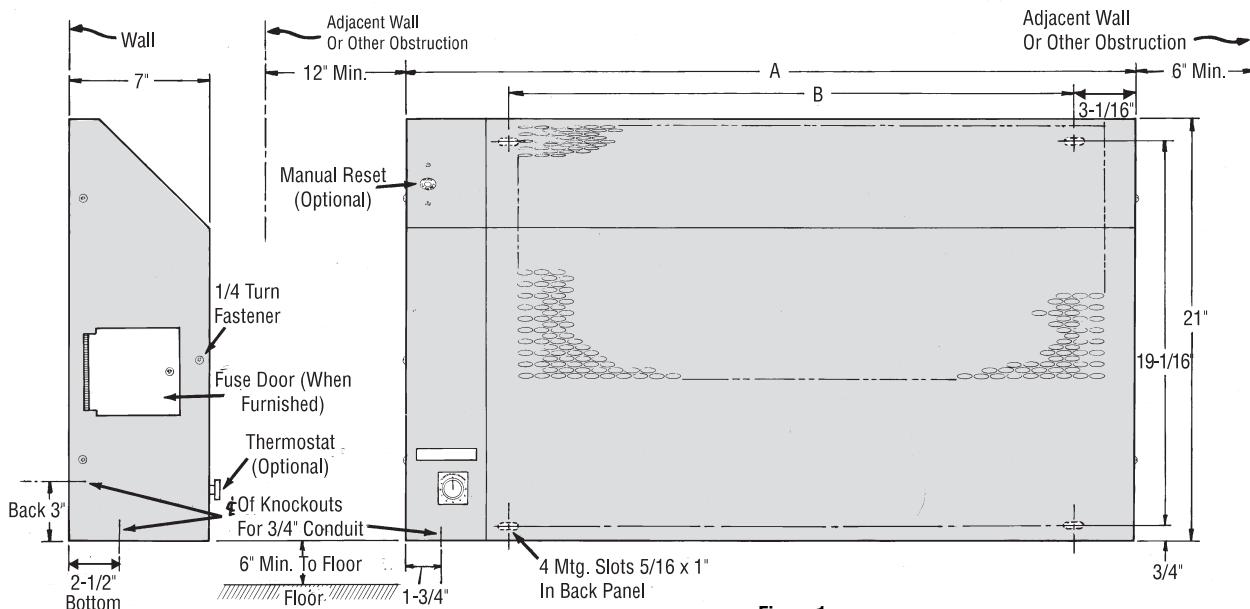
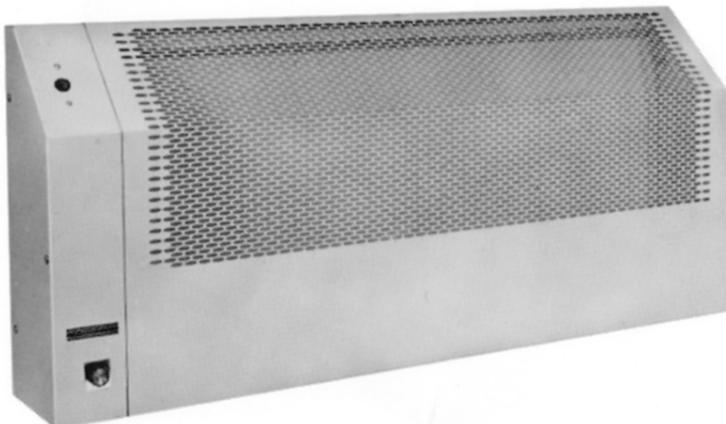


Figure 1

**Note:** Carefully remove heater from carton and check for shipping damage. Any damage claims should be entered immediately with the carrier.

**WARNING**  
**FIRE/EXPLOSION HAZARD.** This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in personal injury or property damage.

### ! WARNING

The system designer is responsible for the safety of this equipment and should install adequate back-up controls and safety devices with their electric heating equipment. Where the consequences of failure could result in personal injury or property damage, back-up controls are essential.

# SPECIFICATIONS

## Specifications - Table A

Model	Voltage (60 Hz — AC)	Watts	Phase	Dimensions (In.)	
				A	B
HCH-051	120, 208, 240 or 277	500	1		
HCH-071	120, 208, 240 or 277	750	1		
HCH-101	120 or 277 208, 240 or 480	1000	1 1 or 3	24	15-7/8
HCH-151	120 or 277 208, 240 or 480 550, 575 or 600	1500	1 1 or 3 3		
HCH-201	120 or 277 208, 240 or 480 550, 575 or 600	2000	1 1 or 3 3		
HCH-251	120 or 277 208, 240 or 480 550, 575 or 600	2500	1 1 or 3 3	36	27-7/8

Note: Heaters with Model Numbers suffixed with the letter "M" (Ex: HCH-351M) are supplied with a Manual Reset.

## MOUNTING

### WARNING

**ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed or serviced by a qualified person in accordance with the National Electrical Code, NFPA 70.**

1. Locate on vertical wall with length of heater positioned horizontally.
2. When selecting a mounting location, the following minimum distances must be observed:
  - A. 6" from bottom of heater to floor to allow for adequate air flow through the heater.
  - B. 6" from wall or other obstruction to right side of heater to allow for access to 1/4 turn fasteners.
  - C. 12" from wall or other obstruction to left side of heater to allow for access to controls and wire entry.

## WIRING

### WARNING

**ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.**

Note: Electrical wiring is to be in accordance with the National Electrical Code and local codes by a qualified person using at least 75°C (167°F) type RH, THW or equivalent insulated conductors.

3. Avoid mounting heater in a recess since such mounting interferes with free air circulation, increases heater temperatures, and prevents proper thermostat operation.
4. Remove front cover by giving two fasteners on right end of heater 1/4 turn then sliding cover approximately 1" to right, then lifting.
5. At the correct height for the top of the heater, draw a pencil line on the wall, parallel to the floor.
6. Using dimensions shown in Figure 1, mark the mounting slot location on the wall.
7. Mount heater to the wall by using fasteners (not furnished) to suit the wall construction. Four 5/16 x 1" mounting slots are provided in heater back panel. Note: If wall surface is not flat, resulting in gap between rear case and wall in excess of 1/8" at location of fasteners, use metal washers to fill in gap. Tighten left hand fasteners securely. The right hand fasteners should be pulled up snug to allow for movement during operation to avoid expansion noise.
8. Replace cover and tighten 1/4 turn fasteners.

1. Electrical wiring can be brought into heater through 3/4" knockout located either in back panel or bottom of left hand end of heater (wiring compartment).
2. Grounding conductor with green insulation, should be secured into grounding lug located in wiring compartment.
3. Using Wiring Diagram Table B select applicable wiring diagram (Figure 2-9) for proper method of connecting heater.
4. Two or more Type HCH heaters may be controlled by a common fused disconnect switch providing total branch circuit current does not exceed 48 amperes according to National Electrical Code.

### Wiring Diagrams — Table B

Model	Wiring Diagram Figure No.															
	208V		240V		277V		480V				550V		575V		600V	
Model	120V 1Ø	1Ø	3ØΔ	1Ø	3ØΔ	1Ø	1Ø	3ØΔ	3ØY (3 Wire)	3ØY (4 Wire)	3ØΔ	3ØY	3ØΔ	3ØY	3ØΔ	3ØY
HCH-051	2	8		8		2										
HCH-071	2	8		8		2										
HCH-101	2	8	4	8	4	2	3		9	6						
HCH-151	2	8	4	8	4	2	3		9	6		9		9		
HCH-201	2	8	4	8	4	2	3		9	6		9		9		
HCH-251	2	8	4	8	4	2	7	5		6		9		9		
HCH-301	8	4	9	4	2	7	5		6		9		9		9	
HCH-351	8	4	8	4	2	7	5		6	5		5		5		
HCH-401	8	4	8	4	2	7	5		6	5		5		5		
HCH-451	8	4	8	4	2	7	5		6	5		5		5		
HCH-501	8	4	8	4	2	7	5		6	5		5		5		

## WIRING (cont'd.)

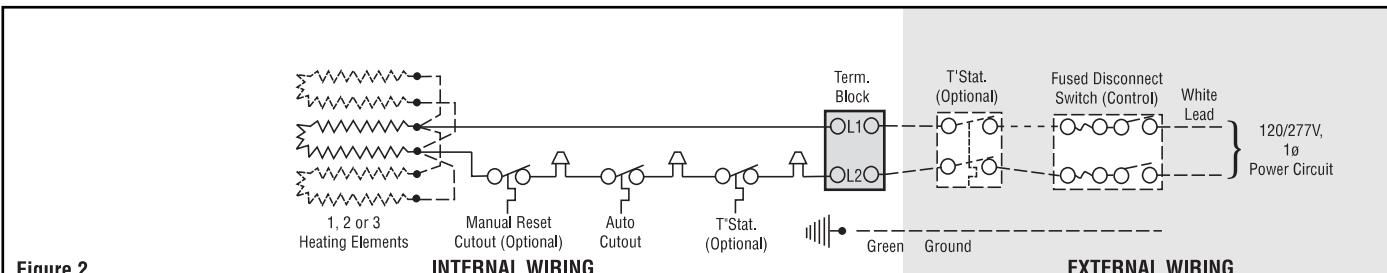


Figure 2

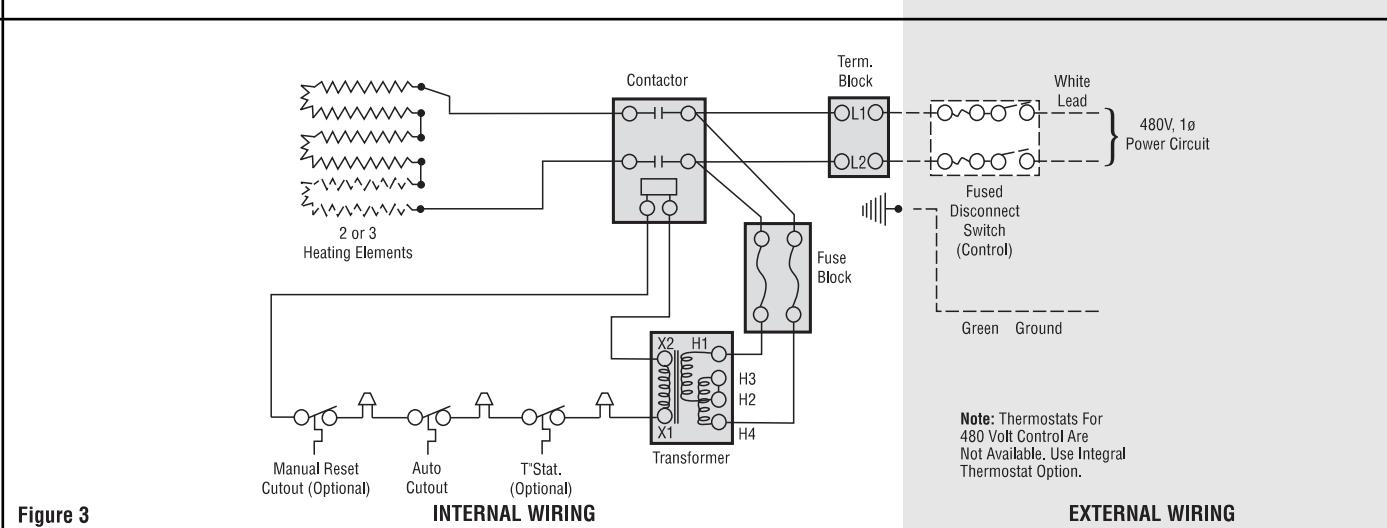


Figure 3

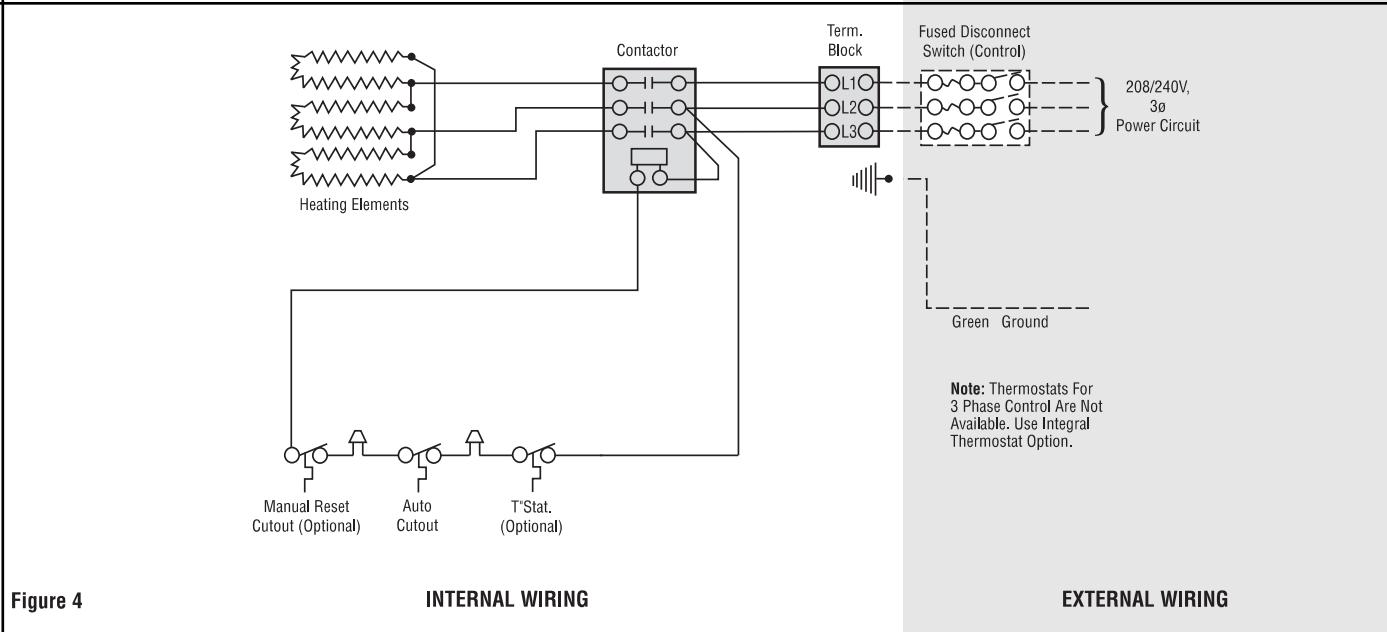


Figure 4

## WIRING (cont'd.)

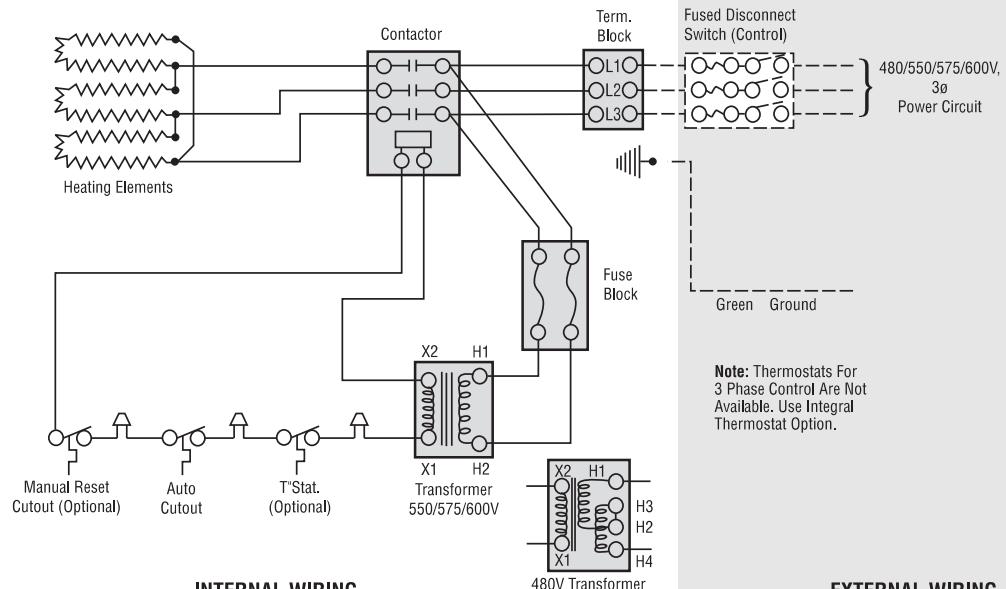


Figure 5

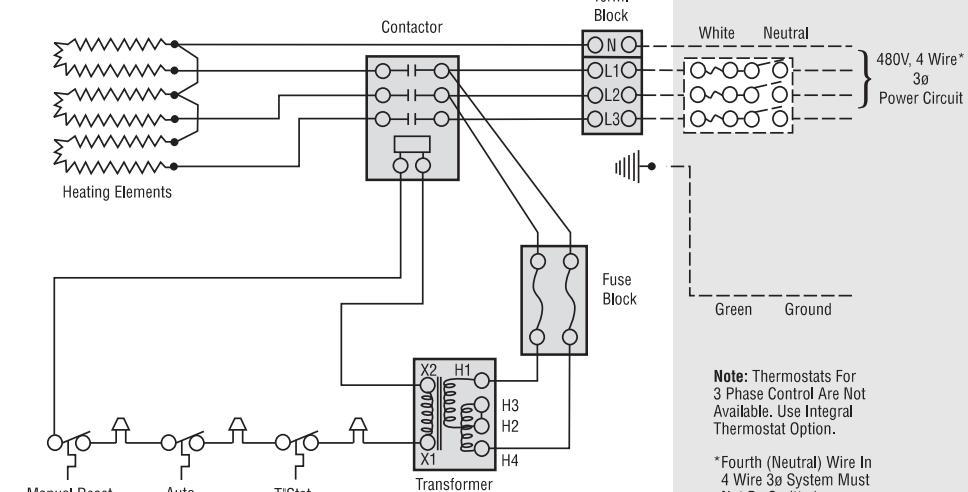


Figure 6

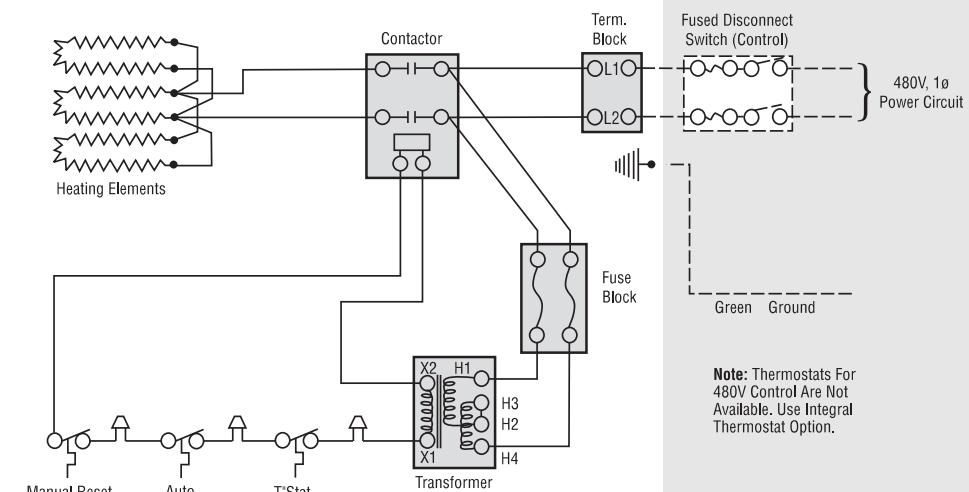
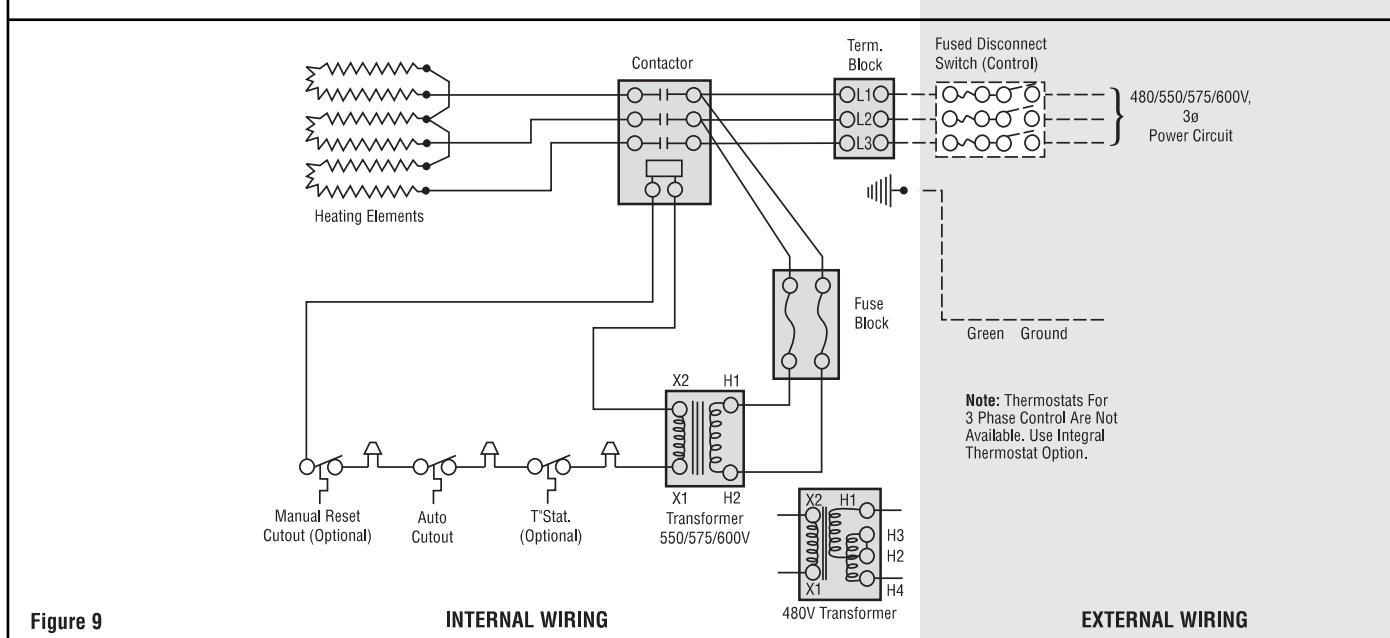
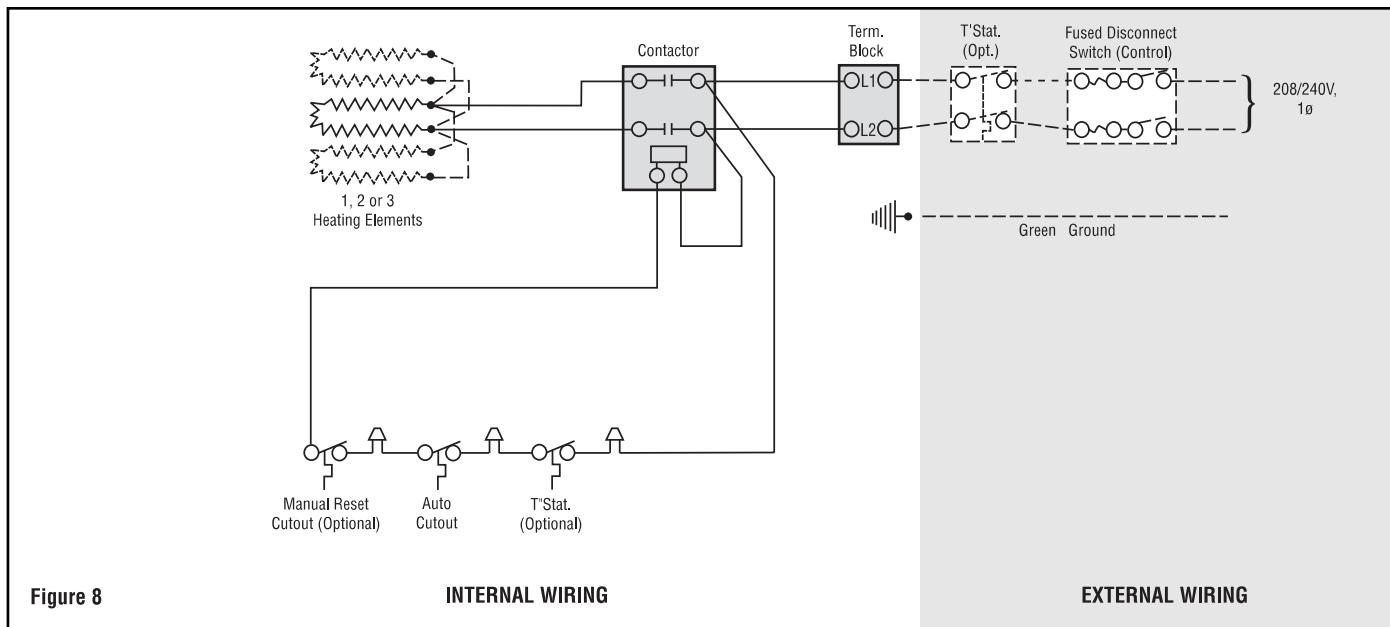


Figure 7

## WIRING (cont'd.)



## OPERATION

### WARNING

**FIRE HAZARD: Keep combustible materials a minimum of four inches away from front, top or side covers. Failure to follow these instructions could result in personal injury and property damage.**

1. Temperature sensitive fabrics may discolor. Allow space greater than 4" if necessary.
2. To allow for proper air circulation, keep space underneath heater free from obstructions, objects or debris.
3. Adjust thermostat (optional) until desired temperature is reached.
4. Turn off power to heater at the end of the heating season.

## MAINTENANCE

### WARNING

**ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed or serviced by a qualified person in accordance with the National Electrical Code, NFPA 70.**

1. Following long periods of idleness, heater should be vacuumed before start-up, to remove accumulated combustible particles which will incinerate causing smoking and consequent wall discoloration.
2. If heater is located in areas of heavy traffic, furnish suitable heater guard (wall mounted pipe rail in front of case, for example) to prevent damage to heater.

## RENEWAL PARTS

### HCH HEATER REPLACEMENT ELEMENTS — Part Number Prefix 118-026956

Model	HCH 051	HCH 071	HCH 101	HCH 151	HCH 201	HCH 251	HCH 301	HCH 351	HCH 401	HCH 451	HCH 501
Watts	500W	750W	1000W	1500W	2000W	2500W	3000W	3500W	4000W	4500W	5000W
Volts											
120V	001	005	001 (2)	005 (2)	015 (3)	021 (3)	—	—	—	—	—
208V	002	006	002 (2)	006 (2)	016 (3)	022 (3)	029 (3)	036 (3)	043 (3)	050 (3)	057 (3)
208V 3ø △	—	—	009 (3)	002 (3)	016 (3)	022 (3)	029 (3)	036 (3)	043 (3)	050 (3)	057 (3)
240V	003	007	003 (2)	007 (2)	002 (3)	023 (3)	030 (3)	037 (3)	044 (3)	051 (3)	058 (3)
240V 3ø △	—	—	010 (3)	003 (3)	002 (3)	023 (3)	030 (3)	037 (3)	044 (3)	051 (3)	058 (3)
277V	004	008	004 (2)	008 (2)	003 (3)	024 (3)	031 (3)	038 (3)	045 (3)	052 (3)	059 (3)
480V	—	—	003 (2)	007 (2)	017 (3)	025 (3)	032 (3)	039 (3)	046 (3)	053 (3)	060 (3)
480V 3ø △	—	—	—	—	—	025 (3)	032 (3)	039 (3)	046 (3)	053 (3)	060 (3)
480V 3ø Y	—	—	011 (3)	004 (3)	003 (3)	—	—	—	—	—	—
480V 3ø 4 Wire	—	—	011 (3)	004 (3)	003 (3)	024 (3)	031 (3)	038 (3)	045 (3)	052 (3)	059 (3)
550V 3ø Y	—	—	—	012 (3)	018 (3)	026 (3)	033 (3)	040 (3)	047 (3)	—	—
550V 3ø △	—	—	—	—	—	—	—	—	—	054 (3)	061 (3)
575V 3ø Y	—	—	—	013 (3)	019 (3)	027 (3)	034 (3)	041 (3)	048 (3)	—	—
575V 3ø △	—	—	—	—	—	—	—	—	—	055 (3)	062 (3)
600V 3ø Y	—	—	—	014 (3)	020 (3)	028 (3)	035 (3)	042 (3)	049 (3)	—	—
600V 3ø △	—	—	—	—	—	—	—	—	—	056 (3)	063 (3)

When ordering element replacement parts use part number prefix No. 118-026956 then the element number, e.g. To replace an element in a 120V HCH 151 order 118-026956-005. The (2) or (3) following the element number designates the number of heating elements contained in the heater.

AUTOMATIC CUT-OFF REPLACEMENT	
For HCH Heaters	Part Number
HCH 051 and HCH 051M thru HCH 201 and HCH 201M	300-024413-001
HCH 251 and HCH 251M thru HCH 351 and HCH 351M	300-024413-002
HCH 401 and HCH 401M thru HCH 501 and HCH 501M	300-024413-009

REPLACEMENT CONTACTOR	
For HCH Heaters rated	Part Number
480V Single phase	072-303180-011
480V thru 600V 3 phase	072-303180-007
208V and 240V Single phase	072-303180-016
208V and 240V 3 phase	072-303180-013

REPLACEMENT TRANSFORMER	
For HCH Heaters rated	Part Number
480V	315-052169-001
550V, 575V and 600V	315-052169-014

THERMOSTAT REPLACEMENT	
For HCH Heaters	Part Number
All ratings	300-049197-001
Thermostat Knob	169-051209-001

REPLACEMENT FUSES FOR ALL TRANSFORMERS — TWO REQUIRED	
For HCH Heaters rated	Part Number
480V, 550V, 575V and 600V	128-047763-011

MANUAL TEMPERATURE CONTROL REPLACEMENT	
HCH (M) Heater	Part Number
HCH 051M thru HCH 201M	300-117647-003
HCH 251M thru HCH 351M	300-117647-002
HCH 401M thru HCH 501M	300-117647-008

**Limited Warranty:**  
Please refer to the Chromalox limited warranty applicable to this product at  
<http://www.chromalox.com/customer-service/policies/termsofsale.aspx>.

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PRECISION HEAT AND CONTROL

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